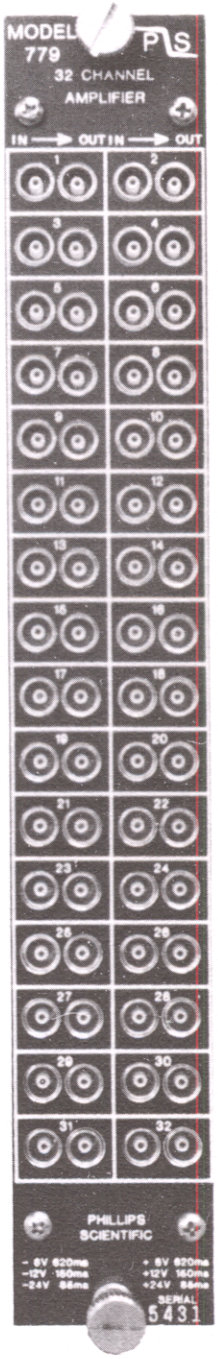
# Phillips Scientific

# 32 Channel Photomultiplier Preamplifier

# NIM MODEL 779

## FEATURES

* Ideal for Many Types of Detectors
* High Packaging Density - 32 Channels/Single Width NIM
* Wideband - Direct Coupled to 275 MHz
* Low Noise Performance
* Excellent Stability
* Low Cost




## DESCRIPTION

The Model 779 is a 32 channel preamplifier packaged in a single width NIM module. Each channel has a non-inverting voltage gain of 10 and operates from DC to over 275 MHz, with one output capable of driving two 50 ohm loads per amplifier. It is designed for use with detectors having negatively going output pulses. Both the input and output stages are protected for reliable operation.

## INPUT CHARACTERISTICS

Impedance : 50 ohms ±2% reflections less than ±4% for 2 nSec input risetimes.

Protection : No damage to the input stage will result from transients of ±100 Volts (±2 amps) for 1 μSec or less duration.

Wideband Noise ; Less than 25 μVolts RMS, referred to the input.

Input Offset Voltage : Less than ±300 μVolts.

Overdrive Recovery Time : Less than 15 nSec for a 1 Volt input.

## OUTPUT CHARACTERISTICS

Type : One output; Voltage source output stage, capable of driving two 50 ohm loads.

Output Voltage Swing : Greater than -3 Volts across 25 ohm load. ±.5 Volts across 50 ohm load. +.25 Volts across 25 ohm load.

Output Protection : Output can be continuously shorted to ground without suffering damage.

Offset Voltage : Less than ±4 mVolts, each channel has an internal 15-turn potentiometer allowing control of ±10 mVolt to compensate for offsets due to ground drops or source impedances other than 50 ohms.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## GENERAL CHARACTERISTICS

| | | |
|---|---|---|
| Gain | : | 10 ±2%, non-inverting. |
| Stability | : | ±5.0 μVolt/°C, referred to the input. |
| Linearity | : | ±.1% to -3 Volts, DC to 100 MHz. |
| Bandwidth | : | DC to 275 MHz minimum, 3 db point. |
| Risetime | : | Less than 1.3 nSec. |
| Crosstalk | : | Greater than 60 db, DC to 100 MHz. |
| Input/Output Delay | : | Typically 3.0 nSec. |
| Power Supply Requirements | : | *+6 V @ 620 mA  +12 V @ 150 mA  +24 V @ 85 mA<br>* - 6 V @ 620 mA  - 12 V @ 150 mA  - 24 V @ 85 mA |

*±6 V requires more current than NIM standard. Phillips Scientific Model 702 NIM Power Supply is recommended for a full bin of 12 modules.



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